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ABSTRACT

Current technological advances have made possible teaching techniques which were previously impossible. Distance and distributed learning technologies have made it possible to instruct outside of the classroom setting. An advantage to this advance includes that ability to reach students who are unable to relocate to the university. However, there is another advantage which makes teaching the family communication course using these technologies more intriguing: the ability to discuss issues of a potentially sensitive nature, family relationships, in a fairly anonymous manner. This paper discusses teaching techniques, such as problem based learning, utilizing distance and distributed learning technologies including curricula on CD-ROM, e-mail and listservs, on-line databases and course materials, and on-line chat rooms. The paper analyzes the implications of a classroomless, non-face-to-face, mediated technology on interpersonal and family communication course anthropogogy. Contains 37 references and 2 tables. An appendix contains two figures--screen dumps from the presentation program developed for the paper. (Author)

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Running head: TECHNOLOGY FOR A FAMILY COURSE

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Distributed and Problem-based Learning Techniques for the Family Communication Course

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Abstract

Current technological advances have made possible teaching techniques which were previously impossible. Distance and distributed learning technologies have made it possible to instruct outside of the classroom setting. An advantage to this advance includes the ability to reach students who are unable to relocate to the university. However, there is another advantage which makes teaching the family communication course using these technologies more intriguing: the ability to discuss issues of a potentially sensitive nature, family relationships, in a fairly anonymous manner. This paper discusses teaching techniques, such as problem based learning, utilizing distance and distributed learning technologies including curricula on CD-ROM, e-mail and listservs, on-line databases and course materials, and on-line chat-rooms. The paper analyzes the implications of a classroomless, non-face-to-face, mediated technology on interpersonal and family communication course anthropogogy.

Distributed and Problem-based Learning Techniques for the Family Communication Course

Teaching is a challenging career. As teachers, we are required as part of our job to keep current with advances in our chosen field of study. We are also required to keep current with advances in modes of teaching. We then must translate these advances into our own instruction. To fail to do so, to rest on our laurels, is to breed mediocrity. However even more problematical, failing to keep abreast of advances and to translate those advances to those we are entrusted to instruct does a disservice to our students. Put positively, to continue our own learning and to involve our students in our learning process is a gift which we offer to those we teach. These are ideals of our chosen vocation.

To keep our ideals the practical question becomes, "How do we keep up with the advances?" Certainly with the discipline of communication, broad by any standard, keeping abreast of all advances within our chosen field of study is nearly if not completely impossible. Most of us narrow our focus. For example, we may study communication within particular types of contexts such as interpersonal or family relationships. The advances within these two areas alone can keep us very busy. It is important for us to continue to dialogue with our colleagues who study communication in other contexts although we may defer to them when questions requiring expertise arise.

Even given advances within our chosen field of study, there are other types of advances which occur and are occurring for which we are responsible. These advances include changes and innovations in modes of instruction and technologies for instruction. In this paper, I will briefly discuss advances in modes of instruction and technology. I will discuss in more detail

problem-based learning as a mode of instruction. I will also discuss the technological advances which make distributed learning as a mode of instruction more practical. I will discuss how these two advances may complement each other. I will provide an example of distributed problem-based learning in a family communication course. Finally, I will discuss the advantages and disadvantages of the distributed learning family communication course.

The Educational Model

The traditional model of instruction, which many of us probably experienced at some point in our education, is a content-based approach in which the learner is a passive recipient of information. However, as McComb (1994) points out, " . . . learning is not transmitted from teachers to students, but takes place in conversations among teachers and students" (p. 160). No where is this observation more apropos than in the communication classroom. Our students come into our classroom with a lifetime of experience communicating with others. That communication may or may not be effective at some level or degree. As teachers in the field of communication, we simply cannot tell our students how to communicate and be done with it. Our responsibility should be to serve as a guide for students to think critically about their experience and choices when communicating with others in order to become more effective.

The field of communication calls us to question the traditional model of instruction. Yet, if we are not to use the traditional content-based model, with what are we to replace this model? Many of the introductory-level courses in our discipline are designed to be performance- or competency-based, such as public speaking, performance of literature, and in some cases the introductory interpersonal communication class. To be sure, if our goal is to guide students toward becoming more effective communicators in their relationships, some level of competency-based instruction must occur (see Buerkel-Rothfuss, Gray, & Yerby, 1993).

Problem-based learning is a competency-based student-centered instructional mode. "Problem-based learning is the learning that results from the process of working toward the understanding or resolution of a problem" (Barrows & Tamblyn, 1980; cited in Wilkerson & Feletti, 1989, p. 52). Problem-based learning (PBL) lends itself well to professional curricula such as medicine where competency in problem-solving is necessary. Medical education has the best examples of established PBL (Margetson, 1994). According to Barrows[1] (1996), objectives of PBL include: (a) pragmatic structuring of knowledge, (b) critical reasoning, (c) self-directed learning skills, and (d) increased motivation for learning.

Barrows demonstrated PBL in a medical school context to the Illinois / Indiana Nurse Practitioner, Certified Nurse-Midwife, and Physician Assistant Training Consortium[2] who were interested in implementing PBL across health care disciplines. In this demonstration, my first hands-on exposure to this model, Barrows presented a case to the participants and requested that the participants use reasoning and knowledge to arrive at a diagnosis. The case scenario involved a "simulated patient" who performed the role of a young woman who was pregnant in her third trimester and who was experiencing unusual abdominal pains. The PBL participants then asked questions of the "simulated patient" to arrive at the diagnosis. Barrows served as a guide to the process.

It became apparent as the participants went through their reasoning that those "students" with less skill gained from the knowledge of their peers. Each participant in the group was required to present candidate answers to the presenting problem. The group was required to come to consensus about the best diagnosis. According to Margetson (1994), PBL typically begins with a video presentation of a problem. Students then form hypotheses about the problem and collaborate to come to a consensus about solutions. This model, as I observed it, encouraged

collaboration and reasoning in a situation similar to that which the participants would have to face in the "real world." "As with real problems, students encountering ill-structured problems will not have most of the relevant information needed to solve the problem at the outset. Nor will they know exactly what actions are required for resolution" (Stepien & Gallagher, 1993, p. 26).

PBL can be implemented in a variety of settings depending upon the goals of the course. Barrows (1986), specified a taxonomy for developing PBL curricula (see Table 1). In this taxonomy, several variations on presentation allow the instructor to design the course which best meets the needs of the students and the goals of the course. This differs significantly from the traditional mode of instruction. Traditional styles of instruction " . . . reflect the factory model of production in American society" (Feden, 1994, p. 19). Ill-structured problems, utilized in PBL, do not have readily apparent solutions procedures and requires research and often collaboration to attend to probable solutions.

Table 1

Problem-based Learning Taxonomy

	Type	Description
complexity and cost: low	Lecture-based cases	Class lecture followed by a case incorporating lecture points
	Case-based lectures	Case followed by lecture illustrating case characteristics
	Case method	Case description followed by student independent study
	Modified case method	Case description followed by tutor-led small group discussion
	Problem-based method	Problem presented followed by student free inquiry
complexity and cost: high	Reiterative problem-based method	Problem-based method followed by evaluation and repetition of process

Whereas traditional educational methods are subject or content-based, in PBL, the critical issue is not what students learn, but how (Margetson, 1994). PBL encourages: (a) confronting the problem, (b) engaging in study about the problem, and (c) returning to the problem (Wilkerson Feletti, 1989). Study about the problem can be done through independent study or through collaborative group process. However, PBL also differs in that control over the educational experience is more shared (Wilkerson & Feletti, 1989). Student's critical thinking skills are encouraged through the synthesis of plausible explanations or diagnoses required in PBL to develop possible solutions. PBL has several distinguishing characteristics compared to traditional models (see Table 2).

Table 2

Comparison of the traditional versus contemporary educational paradigm

Traditional	Contemporary
student acquires bits of information and isolated skills	student's prior knowledge influences learning
student learning is passive	student actively constructs meaning
teacher responsible for transferring knowledge to students	teacher responsible for changing cognitive structure (schema) of students
process focuses on interaction between teacher and independent student	process focuses on cooperative learning, motivation, support, modelling and coaching

PBL differs from the traditional educational model for both students and teachers (Ferrier, 1990). For teachers, PBL increases vulnerability due to changes in the teacher's role from information experts to critical thinking coaches. Teaching PBL is more complex. However, student epiphanies are more evident. For students, PBL requires more responsibility for participation and requires different skills when compared to the traditional model.

According to Birch (1986), the purpose provided by PBL methods increases motivation. Christophel and Gorham (1995) demonstrated that students perceive motivation to be

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personally-owned state of being. By participating in the process of problem-solving, students are motivated by the investment of particular skills which they can utilize in the future. Furthermore, PBL allows education to follow the form of research. There are five principles of PBL: (a) PBL allows for a higher threshold level of attainment than didactic methods, (b) in PBL, motivation is derived from the connection between knowledge and action, (c) the intellectual skills needed for problem solving apply to the "real world," (d) PBL requires students to put knowledge to work regularly, and (e) PBL encourages self-directed learners.

In a study, Shahabudin (1987) demonstrated that PBL was as efficient as traditional methods in content coverage. Conversely, Ferrier (1990) found that students who participated in PBL had more clinical competence although they measured less well in knowledge base. Garside (1996) found no difference between the traditional lecture format and group discussion for developing critical thinking skills. However, Garside suggested that the findings may be influenced by students lack of prior experience with group discussion as a learning mode and suggested that group discussion may provide benefits for improving critical thinking skills during small group process. These findings suggest that PBL may have added benefits for students in terms of future career endeavors.

Arambula-Greenfield, (1996) found that students preferred PBL format to traditional methods. In PBL classes, instructors serve as "cognitive coaches" by guiding student inquiry. "Student groups analyze, research, extend, and interpret problem situations and then use their findings to help resolve a 'real-life' situation" (p. 27). In another study, students perceived PBL as better at developing clinical skills, teamwork and relational skills than the traditional education model, though they perceived the traditional model as better at knowledge base (Bernstein, Tipping, Bercovitz, & Skinner, 1995).

In order to incorporate PBL into the curriculum, the course designer must attend to six steps: (a) recognition of a problem with significant academic or operational implications or both, (b) initial formulation of the problem, (c) description of the problem situation, (d) identification of key relationships within the problem situation, (e) identification of solutions for analysis and testing, and (f) evaluation of solutions with respect to the problem (Birch, 1986). In developing PBL for any course, the goals and expected outcomes of the course should be considered.

PBL may be well suited to other disciplines outside of medicine. Colby, Almy, and Zubkoff (1986) integrated PBL techniques for teaching social sciences and humanities, including ethics and anthropology, into a medical clinical curriculum. PBL may be integrated into any curricula which requires a performance- or competency-based approach. As suggested above, much of what we do in communication is performance-based. For example, interpersonal or family communication courses often include sections on conflict or conflict-resolution. Many instructors incorporate role-play or group discussion to teach about effective conflict management strategies. PBL may fit in well in these type of course sections.

Instructional Technology

Technology may also be beneficial for communication courses as it has long provided tools for researchers. The introduction of computers saved many graduate students from manually performing comparison of means or other statistical tests using a slide-rule. This introduction allowed for the electronic storage of data, including library resources. The computer also brought forth new networking tools which were used by researchers to communicate and collaborate and have made more productive the research endeavor. For example, the interconnected network of university and governmental computer systems, known as the Internet, allowed researchers the ability to send text messages, documents and data files electronically from one location to

another. The Internet also allowed for the dissemination of information to large groups of "connected" people simultaneously.

Two particular functions of the Internet, listservs and usenet newsgroups, allowed individuals having particular interests to subscribe to on-line discussion groups (Berge, 1994). Listservs operate much like an automated electronic mailing system (Kehoe, 1994). An individual can send a comment or question to a listserv which forwards the message to everyone on the listserv list. Any one on the list can respond to the comment or question by simply sending the message back. Usenet newsgroups are similar to listserv. However, instead of sending messages to individual electronic mail (e-mail) accounts, news items are sent to a server where they can be read by connected users. This interconnection was accessible through computer terminals connected to a mainframe server by typing in commands. These technologies have been available since the mid-seventies, yet their computer interface was difficult for most to navigate. This difficulty resulted in their limited use.

However, recent advances in computer technology have allowed for the development of new resources which can also be used for instruction. The development of the World Wide Web utilizing a graphical user interface made the Internet accessible with a standard personal computer. E-mail systems have been developed which take advantage of this graphical user interface allowing even more individuals the ability to network. These advances have seen an incredible increase in the number of "connected" users, as well as an increase in the number of courses offered which have some form of computer-mediated communication such as e-mail as part of the course. According to Benson (1994), the employment of e-mail and electronic discussion groups in his classes has resulted in improved student work and increased student active learning.

The employment of computers and computer-mediated communication in college courses is part of an increasing development of distance learning strategies. Distance learning is a term that has come to denote a myriad of technologies which are delivered to placebound students outside the traditional classroom setting including: (a) print media, (b) audio cassette, (c) radio broadcast, (d) audio conferencing, (e) electronic bulletin board, (f) fax, (g) video conferencing, (h) video cassette, (i) interactive videodisk, (j) computer-assisted instruction, (k) e-mail conferencing, and (l) the World Wide Web (WWW) (Chen, 1997). The most recent of these developments (j - l above), rely heavily on the advances in computer technology. A more recent term, distributed learning, has been coined to emphasize the nature by which the course materials are disseminated. Computer-assisted distributed learning is rapidly changing the techniques through which education is accomplished. According to Milone (1997), the new trend toward computer-assisted distributed learning is significantly changing the concept of school. Where school tied an institution of learning to a place, distributed learning breaks that tie. The location of school can literally exist almost anywhere.

As I discussed before, the Illinois / Indiana Nurse Practitioner (NP), Certified Nurse-Midwife (CNM), and Physician Assistant (PA) Training Consortium was involved in the development and implementation of interdisciplinary health care curricula. The goal of the Consortium was to deliver training to placebound health care students via a distributed learning strategy (deMeneses, et al., 1997). For example, Consortium educational institutions developed agreements with the University of Illinois at Chicago to deliver certified nurse midwifery training to students in their region who could not relocate to Chicago. The mechanism for distance delivery, since consortium schools did not intend and were not in a position to hire qualified

midwifery faculty, was through a combination CD-ROM computer-mediated instructional model and e-mail and WWW conferencing.

The distributed learning model utilized by UIC and the Consortium was developed by Judith Treistman and Doc Watson of the State University of New York at Stonybrook, and Judith Fullerton of the University of Texas Health Science Center at San Antonio. According to Treistman, et al. (1996), the uniqueness of the "Pathways to Midwifery" program, which utilizes an asynchronous computer-mediated approach is in its ability to: (a) enable collaboration regardless of geographic or chronological boundaries, (b) allow students to learn according to their strengths, and (c) allow for access and organization of curriculum in non-linear ways.

The model is built upon a set of integrated groupware databases which incorporate: (a) course information, (b) competency criteria, (c) a discussion facility for on-line interaction between students and between students and instructors, (d) a work repository for collection and distribution of student work, and (e) a repository for evaluations of course and programs (Treistman, Watson, & Fullerton, 1996). Students participate in the program by periodically accessing the instructor's "home" site for information, completing self-directed learning exercises off-line, participating in on-line discussion and collaborative work groups, and submitting "home-work" via e-mail to the instructor where it is maintained on a database.

The Illinois / Indiana NP, CNM, and PA Training Consortium utilized the framework for the "Pathways to Midwifery" program to develop an interdisciplinary curriculum, incorporating PBL, on CD-ROM. This development allows the Consortium to reach its goal of training placebound health care students.

This non-placebound nature of school also affects the nature of instruction. According to Chen (1997), the four most pertinent issues when considering distance education models,

including distributed learning, are: (a) interaction between instructors and students, (b) instructional strategies, (c) motivation, and (d) feedback/evaluation. Given the nature of the communication course, particularly interpersonal and family communication, the importance of these issues cannot be underscored. To be sure, communication courses rely heavily upon the interaction among students and between students and the instructor. As well, instructional strategies, motivation and feedback are all necessary in competency-based instruction.

The Communication Course

On-line or distributed communication courses are being developed at schools throughout the nation. Whether those courses or course materials are distributed on-line through the WWW or on CD-ROM's, many levels of development are possible. CD-ROM's supplied with course materials are relatively new in the communication discipline, although some examples do exist. Course textbooks may be supplied with CD-ROM's which contain activities or other materials for assisting students. CD-ROM's may also contain the course syllabus or the entire textbook in electronic form. CD-ROM's can serve much like a database or reference resource containing links to materials in a highly organized manner. A course site on the WWW can function in many of the same ways. On-line databases, e-mail, and chat-rooms may supply most of the basis for the communication course.

In the appended example, I have created a web site for the family communication course (see Appendix). This web site contains sketches and drafts of the necessary components of a course offered "place-bound" in the classroom, sans the face-to-face interaction between student and teacher. The example contains an introductory page with links to a syllabus, list of course policies, list of activities, and other materials.

The web family course example also contains a sample activity implementing some PBL techniques. The "Family Conflict Assignment" page contains a five minute quick time video which can be played with the appropriate web browser software, a conversational transcript of the interaction in the video segment, a questionnaire form which can be submitted via e-mail upon completion, and instructions.

The Family Conflict Assignment contains a video segment of the movie "Torch Song Trilogy" in which the character Arnold Beckoff is having an argument with his mother. The argument deals with the feelings of both individuals regarding the lifestyle choice of the son. Students are instructed to observe the case utilizing both the video segment and the accompanying transcript, then answer questions about the segment. As Clouse and Garrett (1994) noted, in learner-centered computer-based instruction, case analysis fosters problem solving, creative and rational thinking, logical analysis and learner motivation and self-direction.

Students have the opportunity to view the video, and discuss their interpretation with other students via e-mail or the on-line chatroom before submitting responses to the questions. If permissible by the instructor, the students may even submit responses more than once. The instructor can then assess the response from the student electronically.

Other course materials such as quizzes or tests could be placed on-line at intervals specified in a course schedule. For example, a quiz could be placed on the website by the instructor for a period of two days. After the two day period, the quiz could be removed. Likewise, course assignments such as written essays could be placed on the website with a deadline attached, then removed once the deadline has been reached.

As with a classroom course, a computer-mediated distributed course could incorporate the same types of materials including: (a) syllabus, (b) textbook, (c) references, (d) lecture notes, (e)

assignments, (f) activities, (g) testing and evaluation, (h) grade assessment, (i) course feedback, (j) peer interaction, and (k) instructor and student information. Instructor and student information can be accomplished by a WWW form attached to a database server. The development of the computer-mediate distributed family communication course, therefore, could follow the same path as the development of the classroom course, simply using different tools.

Course Development Considerations

The development of distributed learning techniques for the communication course may be a foregone conclusion. Communication occurs in many contexts including through mediation such as letter, telephone, and computer terminal. Yet, the communication discipline may not be at the forefront of distributed learning development. Richard Staelin, director of the Duke University MBA program, stated his belief that in five years the ratio of registrations for the on-line program to the on-campus program will be fifty/fifty (quoted in Hamilton & Miller, 1997). Pam Dixon also predicted that college curricula offered on-line will be part of the mainstream educational establishment (quoted in Hamilton & Miller, 1997). Indeed, several job announcements in Spectra this fall specified experience in website development.

Distributed learning development considerations include several issues which apply to any course development. For example, in developing a course for a distributed learning environment, the course designer should analyze the characteristics of the students who will be enrolling in the course. Likewise, the designer should analyze the resources necessary for instruction, should structure and outline course materials for rapid development, and create templates for other faculty members to contribute to the development of the course (Starr, 1997). However, distributed learning course development also requires certain prerequisites. These prerequisites

include: (a) e-mail availability, (b) archiving features for electronically submitted coursework, (c) text editing features for on-line work, and (d) easy accessibility.

When developing the distributed learning course, attention should be paid to which elements should be implemented and which elements should not be implemented in the computer-mediated course design. The course designer should consider how the instructor will make an assessment of student learning. As well, the course designer should consider the most appropriate means for the dissemination of course syllabi and activities, course texts, and faculty research related to course material. For each of these items, the course designer must assess if these items should be made available in downloadable format. With WWW based courses, text and images are downloadable. This feature may create problems associated with Copyright infringement and plagiarism (Starr, 1997). Heeren and Lewis (1997), suggest that the type of media used in distributed education environments should be determined by the degree of interactivity and collaboration desired.

A method for student-to-student interaction should be employed for collaboration. As Schrum and Lamb (1997) point out, groupware (computer software designed to be collaboratively utilized) allows researchers and students to collaboratively work on projects. This collaboration could be accomplished by creating an electronic student lounge area or chat room with dynamic topic areas. Other methods for encouraging student peer interaction might include: (a) publishing student e-mail addresses, (b) creating a form and database on a webpage with student information, and (c) by specifying guidelines for student-to-student interaction.

In developing the computer-mediated course, specify basic prerequisites such as: (a) computer literacy for the specific population of students through a non-major prerequisite course, and (b) specify the goal of the technology for the population of students. Furthermore, the course

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designer should specify requirements for the successful implementation of a computer-mediated distributed learning course. These requirements include building in technical support (such as the hire of technical support personnel).

With these development considerations in mind, it is important to consider whether or not distributed learning should be implemented. Distributed learning carries with it distinct advantages and disadvantages. For example, it is important to keep cost considerations in focus. As video teleconferencing has demonstrated, cost may be prohibitive, particularly when the technology infrastructure is not in place. With any computer-mediated communication, both technical support for users and the cost of maintenance of the system must be taken into consideration. It is important to design cost effective systems that are practical.

Other disadvantages of the computer-mediated distributed learning course include the likelihood of technical glitches which may throw off the schedule of activities. Transmission time for some students with slower computers may also create frustration and thus demotivate those students from participating. All components in a computer-mediated course must run smooth and be operationally sound (Schrum & Lamb, 1997). And, as Descy (1997) points out, neither e-mail or Internet use are private forms of communication.

Computer-mediated communication also affects group collaboration. As Olaniran, Savage, and Sorenson (1996) point out, students lack social context cues and often make comments that are inappropriately critical in a computer-mediated environment. These shortcomings could counteract the advantages to computer-mediated coursework if not adequately checked by the instructor. Furthermore, the quality of student feedback is critical to the success of distributed learning (Price, 1997). Comeaux (1995) believes that the psychological distance between student and instructor must be addressed in the development of distributed learning.

Students are individually responsible and accountable for participation, in computer-mediated collaborative learning environments (Schrum & Lamb, 1997). In order for students to be successful in a distributed learning environment, students must set aside adequate time to dedicate to studies and take advantage of the collaborative environment of computer networks (Carr, Fullerton, Severino, & McHugh, 1996).

According to Dobos (1996), computer-mediated collaborative learning instruction may only be effective for students who are not communication apprehensive. Scott and Rockwell (1997) found that both computer anxiety and communication apprehension may affect computer use thus impacting the effectiveness of computer-mediated coursework.

Olaniran, et al. (1996), found that students perceived greater overall satisfaction with face-to-face collaborative learning compared to computer-mediated collaborative learning even though computer-mediation produced significantly more brainstorming ideas. Olaniran et al. suggest caution when developing courses utilizing computer-mediated communication due to the perceptions of students regarding its effectiveness for learning.

On the other hand, computer-mediated distributed learning provides several distinct advantages to the classroom. Distributed learning extends learning beyond the classroom room and allows students to participate without place- or time-binding (McComb, 1994; Olaniran, et al., 1996). Distributed learning increases the availability of the instructor and makes course resources more available to the student (McComb, 1994). Distributed learning balances the power of the classroom by increasing student responsibility and autonomy (McComb, 1994), and by increasing the willingness of students to participate in group collaboration (Olaniran, et al. 1996). Finally, computer-mediated group process reduces the impact of evaluation apprehension for students when compared to face-to-face interaction in the classroom (Olaniran, et al. 1996).

Before implementing distributed learning for a course, the departmental supervisor should consider appropriate courseload for instructor of the distributed learning course. According to Lynch, courseload for distance education is typically double that of the traditional course method. Faculty should be limited to no more than one computer-mediated distributed learning course and two traditional courses in one semester (B. Lynch, personal communication, January 30, 1997).

When developing computer-mediated distributed learning, the course designer must also take into consideration other larger issues related to educational goals. The traditional model of instruction specified a content-driven lecture based format. This educational process is fairly linear. However, are we as communication instructors willing to accept that education is linear, or is it more appropriate to consider education as a dialogic process. Also, communication education is more appropriate for the development of critical thinking versus information dissemination.

In this sense, education should be designed specifically for the method of delivery: lecture format should not be applied to the distributed education method. Also, modification of student/teacher interaction must be made in the distributed education method. This requires that an effective feedback mechanism must be employed to the method of delivery. Students must have the ability to evaluate the process and procedure, and dialogue on the method of delivery should continue to occur between students and instructor.

We should not get caught in the trap of believing that because we teach communication, which perhaps primarily occurs in face-to-face interactions, that we should not consider the importance of computer-mediated communication. Both face-to-face interaction and computer-mediated communication should be seen as occurring in the "real-world". Many students may move on to careers which rely heavily on computer-mediated communication to conduct day-to-day business such as collaborating on work projects or sending task-oriented

messages via e-mail. Our instructional design must consider all the possibilities of use for the student.

Conclusion

Any instructional mode requires attention to the student's needs. In communication, our goal may be to guide the student toward critical self-analysis and analysis of their communicative events. To accomplish this as instructors, we need to empower students to participate actively in the learning process by incorporating shared learning, group process, and access to content (Brunson & Vogt, 1996). This goal, to be met, specifies an instructional mode that goes beyond a content-based model to a competency-based model. The competency-based model has several distinguishing features: (a) active participation in "real-world" oriented problem solving, (b) collaboration among peers and between students and the instructor, (c) increased motivation for students, and (d) self-directed learning.

Problem-based learning is one example of a competency-based instructional model that may be utilized in the family communication course. For PBL to be effective in the family communication course requires considerable planning. For example, although peer discussion groups may contribute to the course by providing opportunity for networking and collaboration, alone they are not a substitute for the guidance offered by the instructor. In a study, Moust, deVolder, and Nuy (1989) demonstrated that students guided by a staff tutor scored significantly higher on higher order cognitive skills than students guided by a peer tutor. According to the researchers, the probable explanation for this difference was the knowledge-base expertise of the tutor. Secondly, peer collaboration may not be realistic for some sensitive or controversial family issues. Some students may resist group collaboration or participation.

PBL lends itself well to distributed learning techniques such as computer-mediated instruction (Birch, 1986). Techniques utilizing curricula on CD-ROM or through the WWW allow for self-motivated student activity and learning, as well as on-line networking and collaboration. Serious consideration must be given to the implications and effects of access. To be sure, not all will have access to the new technologies. As Mayor (1996) points out, knowledge to be shared requires a global vision. Without such vision, advances in knowledge and learning may be available only to those with access. Therefore, utilization of these new techniques and technologies should be coupled with an understanding of our role as instructors.

Changes in society demand changes in instructional modes. Current advances in teaching modes provide many different techniques for informing, instructing, guiding, and demonstrating. According to Tedesco (1990), in some institutions financial and academic rewards are tied to faculty use of new teaching techniques. Problem-based learning and distributed learning are new teaching techniques which are rapidly gaining acceptance throughout the academy and may also become a financial necessity for academic institutions. Communication scholars should participate in the discussion and the development of these new techniques.

To keep current with advances in instructional techniques, it is important to continually ask ourselves, " . . . what is the role of the teacher?" Is the role solely to inform? Or, are we required to guide students to self-learning through critical thinking? When considering the terms or metaphors used to define "teacher" such as instructor, mentor, or coach, the role of the teacher comes into focus as multifaceted. It is this multifaceted nature that demonstrates the necessity of utilizing many techniques in teaching.

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Notes

[1] Barrows was a faculty member at McMasters University in the mid-1970s where PBL was first implemented in medical school training. He is now at Southern Illinois University School of Medicine.

[2] I served as Project Coordinator for the Illinois / Indiana Nurse Practitioner, Certified Nurse-Midwife, and Physician Assistant Training Consortium from May 1996 through September 1997.

Appendix

Sample Family Communication Course

for WWW Browser or CD-ROM

The following two figures are screen dumps from the presentation program developed for this paper. The presentation program was developed for use with a WWW browser, such as Netscape Navigator® in this example, or with a proprietary browser program which can be developed for CD-ROM distribution. The first figure is the index which is called upon access to the base URL (see Figure 1). This index contains two frame elements: (a) a navigation bar on the left, and (b) a welcome and information page on the right. The navigation bar allows access to all main components of the site including course syllabus, policies, and schedule, student database, as well as links to the university library and other resources. The navigator bar remains in place for all course materials with the exception of course assignments. Course assignments are accessed through the syllabus, and require authentification by user input of a user id and password. The second figure shows the top of the course syllabus (see Figure 2). The center bar provides a link to the security program which allows access to course assignments only to students registered in the course.

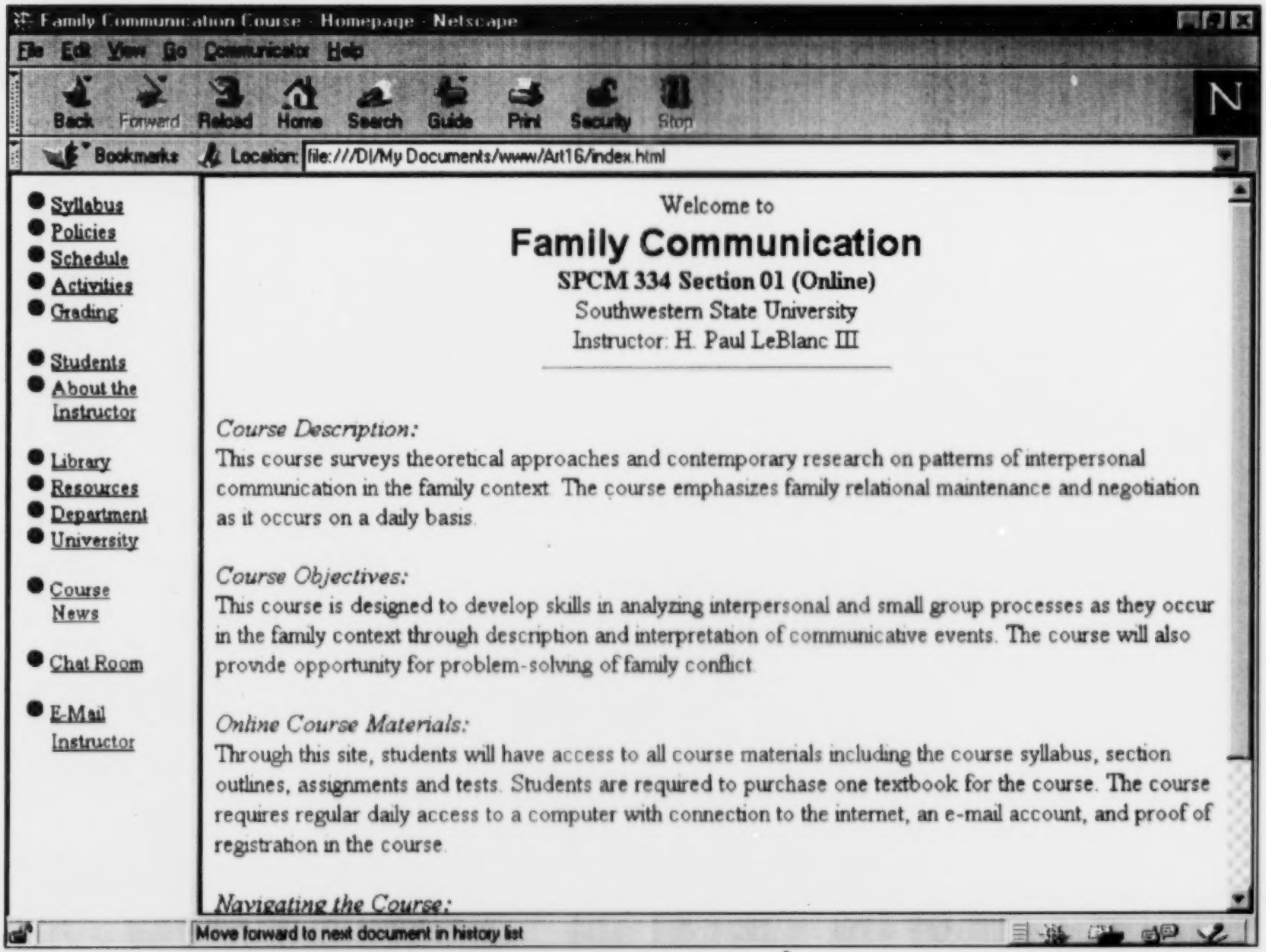
Family Communication Course - Homepage - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Guide Print Security Stop
Bookmarks Location: file:///D|/My Documents/www/Art16/index.html
Syllabus
Policies
Schedule
Activities
Grading
Students
About the Instructor
Library
Resources
Department
University
Course News
Chat Room
E-Mail Instructor
Welcome to
Family Communication
SPCM 334 Section 01 (Online)
Southwestern State University
Instructor: H. Paul LeBlanc III
Course Description:
This course surveys theoretical approaches and contemporary research on patterns of interpersonal communication in the family context. The course emphasizes family relational maintenance and negotiation as it occurs on a daily basis.
Course Objectives:
This course is designed to develop skills in analyzing interpersonal and small group processes as they occur in the family context through description and interpretation of communicative events. The course will also provide opportunity for problem-solving of family conflict.
Online Course Materials:
Through this site, students will have access to all course materials including the course syllabus, section outlines, assignments and tests. Students are required to purchase one textbook for the course. The course requires regular daily access to a computer with connection to the internet, an e-mail account, and proof of registration in the course.
Navigating the Course:
Move forward to next document in history list

Figure 1. Sample Family Communication course base URL index welcome screen in Netscape Navigator®.

BEST COPY AVAILABLE

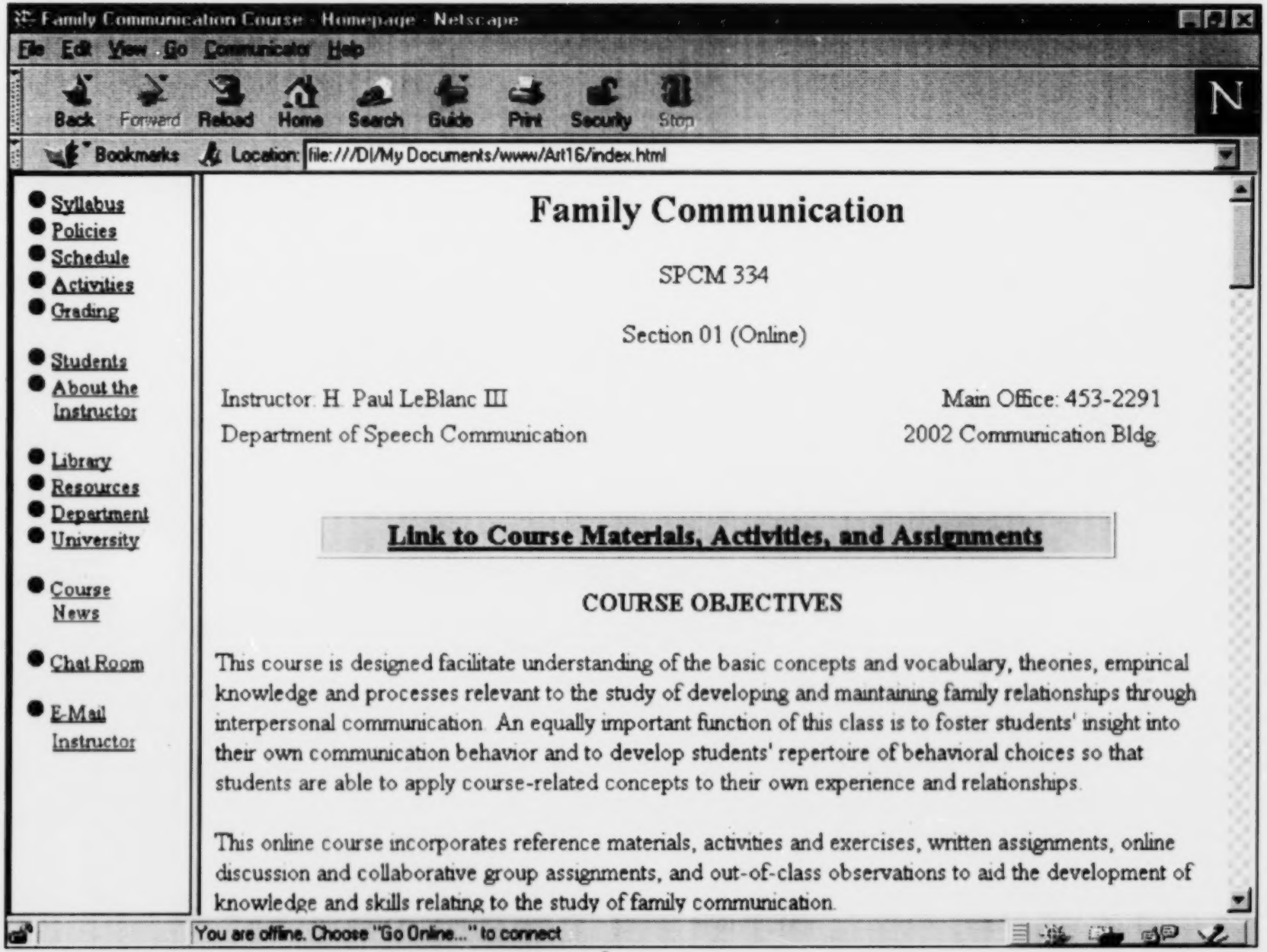
Family Communication Course - Homepage - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Guide Print Security Stop
Bookmarks Location: file:///D|/My Documents/www/Art16/index.html
Syllabus
Policies
Schedule
Activities
Grading
Students
About the Instructor
Library
Resources
Department
University
Course News
Chat Room
E-Mail Instructor
Family Communication
SPCM 334
Section 01 (Online)
Instructor: H. Paul LeBlanc III
Department of Speech Communication
Main Office: 453-2291
2002 Communication Bldg.
Link to Course Materials, Activities, and Assignments
COURSE OBJECTIVES
This course is designed facilitate understanding of the basic concepts and vocabulary, theories, empirical knowledge and processes relevant to the study of developing and maintaining family relationships through interpersonal communication. An equally important function of this class is to foster students' insight into their own communication behavior and to develop students' repertoire of behavioral choices so that students are able to apply course-related concepts to their own experience and relationships.
This online course incorporates reference materials, activities and exercises, written assignments, online discussion and collaborative group assignments, and out-of-class observations to aid the development of knowledge and skills relating to the study of family communication.
You are offline. Choose "Go Online..." to connect

Figure 2. Sample Family Communication course syllabus in Netscape Navigator®.

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